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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/484,316	01/18/2000	Goro Asahi	5000-4723	9561

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EXAMINER

SENF, BEHROOZ M

ART UNIT

PAPER NUMBER

2613

DATE MAILED: 02/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/484,316

Applicant(s)

ASAHI ET AL.

Examiner

Behrooz Senfi

Art Unit

2613

Period for Reply
-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 11.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1, 14 and 19 have been considered but are moot in view of the new ground(s) of rejection.

Applicant amends (paper no. 10, dated 11/14/2003) claims 1 - 6, 8, 10 - 12, 16 and 19.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 14 and 18, are rejected under 35 U.S.C. 102(e) as being anticipated by Shimizu et al (US 6,275,754).

Regarding claim 1, Shimizu '754 discloses an apparatus for aiding steering (i.e. figs. 1 and 3a – 3c) when vehicle is being driven in reverse, comprising: a camera for capturing an image of an area behind the vehicle (i.e. fig. 1, television cameras S6) and a monitor for displaying the image captured by the camera (i.e. fig. 1, stage display unit 11), and a display control unit for displaying a guide marking for aiding steering, the marking and the image being simultaneously displayed on the monitor when the vehicle is being driven in reverse, wherein the marking provides a driver with at least first and

second indications, the first indication which is fixedly displayed on the monitor so as to display behind the vehicle concerning the width of the vehicle (figs. 12 and 16, shows that the width of the vehicle "B" being considered) and the second indication of a prospective path of the vehicle corresponding to the angle of the steered wheels (i.e. fig. 1 shows the controller 22 "which receives signals from the steering angles detection and detecting angles of the wheels S1, S3" controls the aiding steering and the operation stage display 11, and figs. 3a – 3c, 4 and 10, col. 5, lines 65 – col. 6, lines 15, shows the first and second indication and prospective path of the vehicle corresponding to the angle of the steered wheels on the display).

Regarding claim 14, the limitations claimed are substantially similar to claim 1, therefore the grounds for rejecting claim 1 also apply here. Furthermore, for additional limitation parallel parking and keeping the steered wheels turned at their maximum angle (i.e. figs. 3, 14 and 18, and the graph on the bottom of fig. 7, shows the traveling distance relative to the steering angle of the wheel, for reverse parking right and left, the steered wheels with respect to the distance, thus being controlled by the controller 22).

Regarding claim 18, Shimizu '754 discloses "detection of obstacle existent and Displaying " (i.e. figs 4 – 5, col. 1, lines 27+).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2 – 13 and 15 - 17, are rejected under 35 U.S.C. 103(a) as being unpatentable over in Shimizu et al (US 6,275,754) in view of Myers (US 4,214,266).

Regarding claim 2, Shimizu '754 discloses "detecting the angle of the steered wheels" (i.e. col. 4, lines 55+) and the "display control unit calculates the prospective path assuming that the vehicle is moved in reverse, on the basis of information from the detector, and wherein the second indication of the marking is displayed according to the width of the vehicle" (i.e. fig. 1, controller 22, controls the operation of display 11 based on the received information/signals and also controls the steering actuator and make the determination on the basis of the received information, see figs. 3a – 3c, and 10, col. 6, lines 9+ and the width B of the vehicle fig. 12B). Shimizu '754 discloses detection of a presence of an object around or behind the vehicle and presumes parking reliably. But fails to explicitly teach, "at least one mark is displayed to appear to be predetermined distance behind the rear end of the vehicle". However, such features are well known and used as evidenced by Myers '266 (i.e. fig. 3, shows the displaying mark behind the rear end of the vehicle with the distance with respect to the mark for guidance in backing the vehicle). Therefore, taking the combined teaching of Shimizu '754 and Myers '266 as a whole, it would have been obvious to improve the visual system of Shimizu '754 as taught by Myers '266 to show the mark on the display and the distance for assisting the operator in the process of backing the vehicle with respect to the mark (col. 1, lines 6 – 16).

Regarding claims 3 - 9, 11, 12 and 15, based on the examiner understanding of the claim language (claim 3), marking includes indication of the space behind the

vehicle and the vehicle. Combination of Shimizu '754 and Myers '266 teach, "marking includes an indication of the space behind the vehicle and the vehicle" (i.e. figs. 3, 5 and 8 of Shimizu), and "marking includes an indication defined by two points that are spaced apart approximately by the width of the vehicle, claim 4" (see fig. 6c, the dashed lines). As discussed above Shimizu '754 determines the prospective path and controls the movement of the vehicle based on the positional relationship, therefore calculation of prospective polar coordinates or prospective path is circular consider as an obvious design preference over the prior art Shimizu '754, and the claimed determining the steering speed (claims 11,12) is inherent function and necessitated by the process of vehicle automatic steering.

Regarding claim 10, combination of Shimizu '754 and Myers '266 teach, "control unit shifts the indication of the prospective path" (i.e. col. 4, lines 65+ of Shimizu).

Regarding claim 13, combination of Shimizu '754 and Myers '266 teaches indicia are displayed in color (i.e. col. 3, lines 26 – 27 of Myers).

Regarding claims 16 and 17, combination of Shimizu '754 and Myers '266 teach, display includes a first marking used when performing parallel parking to the left (reads on figs. 1, bottom of the page shows the selection of four step of the parking, and fig. 3, and col. 5, lines 9+ of Shimizu) where teaches reverse parking in left mode and also in right mode being selectively displayed.

6. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over in Shimizu et al (US 6,275,754) in view of Franke et al. (US 5,485,378).

Regarding claim 19, as discussed above Shimizu '754 discloses, "aiding steering when a vehicle is driven in reverse and camera for capturing the image from behind the vehicle and display for displaying the image and guide marking for aiding the steering and control section for steering angle control and overall system control including the display control". Shimizu '754 fails to explicitly teach, "guide display is positioned at the center of the route and the route being an image of a way behind the vehicle". However, such features are well known and used as evidenced by Franke '378 (fig. 2, col. 2, lines 11+) where teaches steering and control the course of a vehicle with respect to lane boundary (center strip). Since Shimizu '754 uses the same cameras in the back and around/side of the vehicle and control section for controlling the position of the vehicle in reverse course (e.g. with video cameras) and on the basis of this data control the steering of the vehicle. Therefore, taking the combined teaching of Shimizu '754 and Franke '378 as a whole, it would have been obvious to modify the steering system of Shimizu '754 as taught by Franke '378 for maintaining a controlled course (distance) with respect to the center strip of the route behind the vehicle.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Behrooz Senfi** whose telephone number is **(703)305-0132**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Chris Kelley** can be reached on **(703)305-4856**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Or faxed to:

(703) 872-9314

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relative to the status of the application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

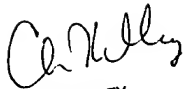
Application/Control Number: 09/484,316

Page 8

Art Unit: 2613

B. S. B. S.

2/5/2004


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